

What is claimed is:

1 1. A computer program product for automated e-business services, the computer program  
2 product embodied on one or more computer-readable media of a first computing system and  
3 comprising:

4 computer-readable program code means for reading a specification of an e-business  
5 service; and

6 computer-readable program code means for processing the specification to carry out the  
7 e-business service, further comprising:

8 computer-readable program code means for receiving one or more input  
9 documents for the e-business service; and

10 computer-readable program code means for performing one or more of: (1)  
11 transforming the input documents into other documents, according to transformation information  
12 that may be provided in the specification, and (2) operating upon the input documents and/or the  
13 other documents to create one or more new documents, according to operating actions that may  
14 be provided in the specification.

1 2. The computer program product according to Claim 1, further comprising computer-  
2 readable program code means for forwarding the other documents and/or the new documents to a  
3 computing system other than the first computing system.

1 3. The computer program product according to Claim 1, wherein the specification and the  
2 input documents are encoded in a structured markup language.

1 4. The computer program product according to Claim 1, wherein the other documents and  
2 the new documents are encoded in a structured markup language.

1 5. The computer program product according to Claim 3 or Claim 4, wherein the structured  
2 markup language is a language known as "the Extensible Markup Language (XML)" or a  
3 derivative thereof.

1 6. The computer program product according to Claim 1, wherein the computer-readable  
2 program code means for operating upon the input documents and/or the other documents further  
3 comprises:

4 computer-readable program code means for invoking one or more software-implemented  
5 processes; and

6 computer-readable program code means for coordinating results of the invocations.

1 7. The computer program product according to Claim 6, further comprising computer-  
2 readable program code means for repetitively executing the computer-readable program code  
3 means for processing, until reaching a final result of the e-business service, wherein the other  
4 documents, the new documents, and/or the coordinated results of the invocations now function as  
5 the input documents.

1 8. A system for automated e-business services, comprising:

2 means for reading a specification of an e-business service; and  
3 means for processing the specification to carry out the e-business service, further  
4 comprising:  
5 means for receiving one or more input documents for the e-business service; and  
6 means for performing one or more of: (1) transforming the input documents into  
7 other documents, according to transformation information that may be provided in the  
8 specification, and (2) operating upon the input documents and/or the other documents to create  
9 one or more new documents, according to operating actions that may be provided in the  
10 specification.

1 9. The system according to Claim 8, further comprising means for forwarding the other  
2 documents and/or the new documents to a computing system other than the first computing  
3 system.

1 10. The system according to Claim 8, wherein the specification and the input documents are  
2 encoded in a structured markup language.

1 11. The system according to Claim 8, wherein the other documents and the new documents  
2 are encoded in a structured markup language.

1 12. The system according to Claim 10 or Claim 11, wherein the structured markup language is  
2 a language known as "the Extensible Markup Language (XML)" or a derivative thereof.

1 13. The system according to Claim 8, wherein the means for operating upon the input

2 documents and/or the other documents further comprises:

3 means for invoking one or more software-implemented processes; and

4 means for coordinating results of the invocations.

1 14. The system according to Claim 13, further comprising means for repetitively executing the

2 means for processing, until reaching a final result of the e-business service, wherein the other

3 documents, the new documents, and/or the coordinated results of the invocations now function as

4 the input documents.

1 15. A method performed by one or more computers for automated e-business services,

2 comprising steps of:

3 reading a specification of an e-business service; and

4 processing the specification to carry out the e-business service, further comprising steps

5 of:

6 receiving one or more input documents for the e-business service; and

7 performing one or more of: (1) transforming the input documents into other

8 documents, according to transformation information that may be provided in the specification, and

9 (2) operating upon the input documents and/or the other documents to create one or more new

10 documents, according to operating actions that may be provided in the specification.

1 16. The method according to Claim 15, further comprising the step of forwarding the other  
2 documents and/or the new documents to a computing system other than the first computing  
3 system.

1 17. The method according to Claim 15, wherein the specification and the input documents are  
2 encoded in a structured markup language.

1 18. The method according to Claim 15, wherein the other documents and the new documents  
2 are encoded in a structured markup language.

1 19. The method according to Claim 17 or Claim 18, wherein the structured markup language  
2 is a language known as "the Extensible Markup Language (XML)" or a derivative thereof.

1 20. The method according to Claim 15, wherein the step of operating upon the input  
2 documents and/or the other documents further comprises steps of:  
3 invoking one or more software-implemented processes; and  
4 coordinating results of the invocations.

1 21. The method according to Claim 20, further comprising the step of repetitively executing  
2 the processing step, until reaching a final result of the e-business service, wherein the other  
3 documents, the new documents, and/or the coordinated results of the invocations now function as  
4 the input documents.

1 22. A method of conducting business by using automated e-business services, comprising

2 steps of:

3 reading a specification of an e-business service; and

4 processing the specification to carry out the e-business service, further comprising steps

5 of:

6 receiving one or more input documents for the e-business service; and

7 performing one or more of: (1) transforming the input documents into other

8 documents, according to transformation information that may be provided in the specification, and

9 (2) operating upon the input documents and/or the other documents to create one or more new

10 documents, according to operating actions that may be provided in the specification.

1 23. A method of defining e-business process and data interactions, further comprising steps of:

2 defining data inputs to be used by an e-business service;

3 defining interactions to be carried out when operating the e-business service;

4 specifying details of the data inputs in a structured markup language syntax;

5 specifying details of the interactions in the structured markup language syntax; and

6 creating one or more e-business service definition documents wherein the specified details

7 of the data inputs and the specified details of the interactions are recorded.

1 24. The method according to Claim 23, wherein the structured markup language is a language

2 known as "the Extensible Markup Language (XML)" or a derivative thereof.

1 25. A method of defining process and data interactions for an application described by a finite  
2 state machine, further comprising steps of:  
3 defining data inputs to be used by the application;  
4 defining interactions to be carried out when operating the application;  
5 specifying details of the data inputs in a structured markup language syntax;  
6 specifying details of the interactions in the structured markup language syntax; and  
7 creating one or more application definition documents wherein the specified details of the  
8 data inputs and the specified details of the interactions are recorded.

1 26. The method according to Claim 25, wherein the structured markup language is a language  
2 known as "the Extensible Markup Language (XML)" or a derivative thereof.

1 27. A method performed by one or more computers for automating data and process  
2 interactions between a first application and one or more other applications, comprising steps of:  
3 providing one or more application definition documents encoded in a structured markup  
4 language, wherein the application definition documents specify the interactions and one or more  
5 data inputs to be used in the interactions, and wherein details of the specified interactions and data  
6 inputs are specified in the structured markup language; and  
7 processing the application definition documents to carry out the data and process  
8 interactions.

1 28. The method according to Claim 27, wherein the step of processing the application  
2 definition documents further comprises steps of:  
3 receiving one or more input documents to be used by the interactions; and  
4 performing one or more of: (1) transforming the input documents into other documents,  
5 according to transformation information that may be provided in the application definition  
6 documents, and (2) operating upon the input documents and/or the other documents to create one  
7 or more new documents, according to operating actions that may be provided in the application  
8 definition documents.

1 29. The method according to Claim 28, further comprising the step of forwarding the other  
2 documents and/or the new documents to from one or the computers to another of the computers.

1 30. The method according to Claim 27, wherein the structured markup language is a language  
2 known as "the Extensible Markup Language (XML)" or a derivative thereof.